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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,205	06/02/2000	Tetsujiro Kondo	450106-02134	6105

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EXAMINER
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DANG, DUY M

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 06/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/586,205

Applicant(s)

KONDO ET AL.

Examiner

Duy M Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/2/00.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23,25,29,31 and 33 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7-11,18-22,24,26, 28,30 and 32 is/are rejected.
- 7) ☒ Claim(s) 2,5,6,12-17 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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**DETAILED ACTION**

1. Preliminary amendment filed 6/2/00 has been entered and made of record.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1, 3-4, 7-11, 18-22, 24, 26, 28, 30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Rao et al. (US Patent No. 5,790,704).

Regarding the representative claim 1, Rao teaches an encoding apparatus (i.e., the "encoder" shown at 150 of figure 5 and mentioned in col. 10 lines 52-60) comprising:

a uniformly random number generating portion for generating uniformly random numbers (i.e., the "random number generation" for generating pseudo random numbers according to col. 13 lines 24-25 in together with col. 14 lines 55-57 functions as the so called "uniformly random number generating portion"); and

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an encoding portion for encoding for each pixel value of an original picture based on a compared result of at least one threshold value that is set based on the uniformly random numbers and pixel value based on the original signal (see "threshold processing circuit" generally shown at 4 in figure 1 and detailed in figure 5 where "encoder 150" is disclosed. With regard to figure 5, the result of the comparators H01 to H01 are encoded by encoder 150 for generating the output pixel data 5 according to col. 10 lines 53-60; and those threshold values Th1 to Th1 shown in figure 5 are generated by using random generator according to col. 11 lines 65-67. In addition, the input image 3 of figure 5 refers to the so called "pixel value of original picture" according to col. 5 lines 20-24 in together with col. 12 lines 14-15).

Regarding claim 3, Rao further teaches wherein said encoding portion repeatedly encodes each of all pixel values in a predetermined range of the original picture signal, one pixel value at the time (these features are clearly shown in Rao's figures 13A-13C. Note the "target pixel" denoted at "\*", the encoder in Rao repeatedly encodes target pixel at a location shown in figure 13A and so to target pixel shown in figures 13B-13C. The combination of the pixel denoted at A-B and "\*" as shown in

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figure 13A for example corresponds to the so called "a predetermined range of the original picture signal").

Regarding claim 4, Rao further wherein the predetermined range is one frame of the original picture signal (i.e., the combination of the target pixel and pixels A-B in figure 13A, for example, corresponds to the so called "one frame").

Regarding claim 7, Rao further teaches wherein said encoding apparatus executes binarization of each pixel value of the original picture signal based on the threshold value (see figure 5 (detailed version of item 4a (threshold processing circuit based on comparison operation) in figure 1). Note that the output of encoder 150 is a binary coded data according to col. 11 lines 61-64. Thus, Rao's threshold processing circuit inherently includes "binarization").

Regarding claim 8, Rao further teaches wherein the threshold value is a value in a gradation range of the original signal (see equation 5 and its corresponding text portion mentioned in col. 18 lines 3-20).

Regarding claim 9, Rao further teaches wherein said at least one threshold value is a fixed number of values that depend on a predetermined original picture signal (see "preset threshold value" mentioned in col. 2 line 59 and "fixed threshold value" mentioned in col. 1 lines 15-19).

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Regarding claim 10, Rao further teaches wherein the original picture signal is a digital picture signal (see "input pixel data" shown at 1 in figure 1 and mentioned in col. 5 lines 1-5).

Regarding claim 11, it is noted that claim 11 recites a decoder for decoding the data encoded by the encoder called for in claim 1. Thus, the advanced statements as applied to claim 1 above are incorporated herein. Rao further teaches a decoder (i.e., the external interface circuit shown at 15 in figure 1 functions as the so called "decoder" according to col. 16 line 25). Rao fails to explicitly teach cumulating encoded values of the encoded picture signal. However, such accumulating is inherently included in Rao's decoder 15 in order to decode encoded data from encoder employed in circuit 4 of figure 1. In addition, the output of encoder 150 (figure 5) show at 4d also serves as the output image 5 which is input to decoder 15 according to figure 1).

Regarding claim 18, Rao fails to explicitly teach wherein said decoding portion decodes the original picture based on the predetermined gradation value that represents the number of gradation. However, Rao teaches encoding the original picture signal based on gradation as discussed above with regard to claim 8. Therefore, Rao's decoder 15 inherently decode the

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original picture signal encoded by encoder 150 based on gradation level in order to function properly.

Regarding claim 19, Rao further teaches wherein gradation value is variable (see level number m mentioned in col. 18 lines 6 and 16-17).

Regarding claim 20, Rao further teaches wherein the original picture signal is a digital picture signal (see "input pixel data" shown at 1 in figure 1 and mentioned in col. 5 lines 1-5).

Regarding claim 21, Rao further teaches wherein the encoded values are binary values (see col. 11 lines 61-64 and figure 5).

Regarding claim 22, this claim recites the features called for in the apparatus claim 1 above. Therefore, claim 22 is also rejected for the reasons as set forth in claim 1 above.

Regarding claim 24, it is noted that claim 24 recites the features called for in claim 22. Thus, the advanced statement as applied to claim 22 above are incorporated herein. Rao further teach computer readable medium (see RAM, ROM, and CPU mentioned in col. 11 lines 4-14. Rao fails to explicitly teaches a program. However, such program is inherently included in Rao's CPU in order for the information to be read and written from and to RAM according to col. 11 lines 4-14).

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The advanced statements applied to claim 1 with regard Rao, above, are incorporated herein. With regard to claim 26, this claim recites the features called for in claim 1 with the addition of "encoding an original signal". Rao further teaches encoding an original signal (i.e., the "input image" shown at 1 in figure 1).

Regarding claim 28, Rao further teaches wherein said encoding portion repeatedly encodes each of all pixel values in a predetermined range of the original picture signal, one pixel value at the time (these features are clearly shown in Rao's figures 13A-13C. Note the "target pixel" denoted at "\*", the encoder in Rao repeatedly encodes target pixel at a location shown in figure 13A and so to target pixel shown in figures 13B-13C. The combination of the pixel denoted at A-B and "\*" as shown in figure 13A for example corresponds to the so called "a predetermined range of the original picture signal").

Regarding the method claim 30, this claim recites the features called for in the apparatus claim 26 above. Therefore, claim 30 is also rejected for the reasons as set forth in claim 26 above.

Regarding claim 32, it is noted that claim 24 recites the features called for in claim 30. Thus, the advanced statement as applied to claim 30 above are incorporated herein. Rao



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further teach computer readable medium (see RAM, ROM, and CPU mentioned in col. 11 lines 4-14. Rao fails to explicitly teaches a program. However, such program is inherently included in Rao's CPU in order for the information to be read and written from and to RAM according to col. 11 lines 4-14).

***Allowable Subject Matter***

4. Claims 2, 5-6, 12-17, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the cited prior art (Rao) fails to teach or suggest the features of "wherein said encoding portion encodes each pixel value of the original picture signal a plurality of times, and wherein said uniformly random number generating portion generates a different uniformly random number for encoding each pixel value of the original picture signal a plurality of times". Claims 5-6 are also allowable as being dependent upon the allowable base claim 2.

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Regarding claim 12, the cited prior art fails to teach or suggest the features "a sampling portion for sampling the encoded values of the encoded picture signal, wherein said cumulating portion cumulates the encoded values sampled by said sampling portion". Claim 13 is allowable as being dependent upon the allowable base claim.

Regarding claim 14, the cited prior art fails to teach or suggest the features of "a controlling portion for causing said cumulating portion to stop cumulating the encoded values". Claims 15-17 are also allowable as being dependent upon the allowable base claim.

Regarding claim 27, it is noted that claim 27 recites the features called for in claim 2. Thus, claim 27 is also allowable for the same reasons as set forth in claim 2 above.

6. Claims 23, 25, 29, 31, and 33 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Regarding claims 23 and 25, the cited prior art (Rao) fails to teach or suggest the features of "counting the number of times cumulated at the cumulated step".

Regarding claims 29, 31, and 33, the cited prior art (Rao) fails to teach or suggest the features of "a counting portion for counting the number of time cumulated".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The examples of the field of invention are: Watney (US Patent No. 5,930,398), Pan et al. (US Patent No. 5,793,892), Shono (US Patent No. 5,394,250).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy M Dang whose telephone number is 7033051464. The examiner can normally be reached on Monday-Thursday from 6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 7033054706. The fax phone numbers for the

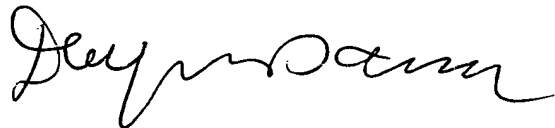
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organization where this application or proceeding is assigned  
are 7038729314 all communications.

Any inquiry of a general nature or relating to the status  
of this application or proceeding should be directed to the  
receptionist whose telephone number is 7033060377.

dmd

5/29/03

A handwritten signature in cursive script, appearing to read "Duy M. Dang".

Duy M. Dang  
Patent Examiner